

Biotech Hub Facility

Under NER BPMC Programme
Funded by DBT, Govt. of India

St. Edmund's College

Shillong

Background: The Biotech Hub of the college has been one of the major thrust Centre in propelling the college to new heights. The Hub has provided important facilities which the college would have never built on its own. It enables the college to expose its human resource to the various scientific fields thereby uplifting the community through the knowledge imparted. It provides research facility to UG

Students with a clear mandate to inculcate research activities among students. In one way or other, the students are now inclined to pursue research in basic sciences as their career opportunities and are qualifying national entrances for the admission to various master's degree programs. On the other hand, the Hub has been able to reach to students in rural areas to popularize biotechnology as a career through its outreach programme.



Infrastructural Facilities

Sl. No.	Name of the equipment	Model No. & Brand Name
1	Fluorescent microscope	PZQ – 102 QUASMO
2	Centrifuge with cooling:	C-24-BC/CPR-24 REMI
3	Cell frost deep freezer:	BFS-345 (S) CELL FROST
4.	Ice cube machine	SL40 BLUE STAR
5	Visualizer	AV355 AF AMED, Taiwan
6	A/C with stabilizer	1.5 ton GODREJ
7	Vertical gel electrophoresis unit (MONOKIN MODEL)	03-00182 TECHNOSOURCE
8	Electro blotting apparatus MODEL NANO BLOT	14-00060 TECHNOSOURCE
9	Power supply	24-00200 TECHNOSOURCE
10	ULTRASONICATOR	17000015 RIVIERA
11	ULTRASONIC Cleaners	19000015 RIVIERA
13	Petri plate Warmer	50021002 RIVIERA
14	Heating dry Bath	CL-740 CHEMLINE
15	ROD gel electrophoresis	MX-1231-01MEDOX
16	Midi submarine electrophoresis	7050 TARSON
17	Rocky Max	4080 TARSON
18	Multi spin	4060 TARSON
19	Philips 5 in 1 speaker	Assorted PHILIPS
20	VACCUM Cleaner	Assorted EUREKA
21	PCR Machine	2740 LABNET
22	MILLIPORE	ELIX MILLIPORE
23	UPS/Inverter system (15 KV _a , 10 KV _a , 5KV _a & 2KV _a)	Green line UNILINE

R & D Activities carried in Biotech Hub

SL No	Title of the Project
1	<i>Maintenance of Cyanobacterial Culture repository</i>
2	<i>Molecular Identification of cyanobacterial species isolated from various coal mining areas of Jaintia Hills, Meghalaya using 16S rRNA profiling.</i>
3	<i>A study of SOD activity in cyanobacterial cells in response to dye stress</i>
4	<i>Development of suitable bioremediation technique for detoxification of dyes.</i>
5	<i>Genetic diversity of azoreductase gene using molecular phylogeny tools in cyanobacterial species</i>
6	<i>A study on the bioactive compounds from cyanobacteria isolated from various habitats of Meghalaya</i>
7	<i>A study on the genetic diversity of Myrica species in Meghalaya</i>

Major achievements of the biotech hub since its inception:

❖ MAINTENANCE OF CYANOBACTERIA CULTURE FACILITY

With the help of Hub support a Cyanobacterial culture facility is maintained. These cultures have been isolated by the students from the various coal mining areas in Jaintia Hills where various smelting operations are being carried out. These cultures are very effective in bioremediation activities and are regularly used by students for research activities. The cultures have been identified at molecular level with collaboration from National Facility for Marine Cyanobacteria, Bharathidasan University, Tamil Nadu.

❖ PRACTICALS BEYOND SYLLABUS

To enhance the practical skills of the students, the Hub facility is used for conducting practicals beyond syllabus for the students of other departments which are supported under the STAR COLLEGE programme. These practicals are being designed based on the instrumentation facility and chemicals procured by the Biotech Hub.

❖ ICT ENABLED MANUALS

The Biotech Hub has successfully prepared Digitalized laboratory manuals for the practical syllabus of the UG programme for Biotechnology Honours.

❖ SUMMER TRAINING

In 2014 the hub has initiated a summer training programme for the UG students in collaboration with the State Biotech Hub, Institutional Biotech Hub and other research laboratories. The mandate of this training is to impart practical knowledge to students which in turn benefits them to pursue research projects. This programme has been designed only for BSC 2nd year honours students.

❖ DEVELOPMENT OF STANDARD OPERATING PROCEDURES (SOP's)

❖ ENHANCEMENT OF DEPARTMENTAL LIBRARY

The Hub grant has been used for purchase of books for students which are provided to them through the department library. These books are issued to students for reference purpose

❖ OUTREACH ACTIVITIES

The Hub has adopted various rural Schools under its outreach programme a joint initiative with Dr Sanjiban Goswami, Associate Professor, Department of Botany, St. Edmund's College, Shillong. The rural schools are visited by the faculty of the college and motivational talks, demonstrations are displayed to students to create interest in science.

❖ USE OF INFRASTRUCTURE FACILITY

The Hub infrastructure facility is regularly utilized by the college for organizing many meetings, seminars etc.



Any Queries Kindly Contact

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